

A new species of *Acropimpla* Townes, 1960 (Hymenoptera: Ichneumonidae: Pimplinae) from Mexico

Новый вид *Acropimpla* Townes, 1960 (Hymenoptera: Ichneumonidae: Pimplinae) из Мексики

A.I. Khalaim^{1,2}, M. López-Ortega³
А.И. Халаим^{1,2}, М. Лопес-Ортега³

¹ Facultad de Ingeniería y Ciencias, Universidad Autónoma de Tamaulipas, Cd. Victoria, Tamaulipas, Mexico. E-mail: akhalaim@gmail.com

² Zoological Institute, Russian Academy of Sciences, Universitetskaya Emb. 1, St Petersburg 199034 Russia.

³ Instituto de Biotecnología y Ecología Aplicada, Universidad Veracruzana, Xalapa, Veracruz, Mexico. E-mail: maulopez@uv.mx

² Зоологический институт, Российская Академия Наук, Университетская наб. 1, Санкт-Петербург 199034, Россия.

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КЛЮЧЕВЫЕ СЛОВА: паразитоиды, *Acropimpla*, Мексика, Северная Америка, новый вид, систематика.

ABSTRACT. A new species, *Acropimpla teoceloana* Khalaim, **sp.n.**, is described from the State of Veracruz in Central Mexico. This is the second species of *Acropimpla* Townes, 1960 discovered from Mexico in recent years. *Acropimpla teoceloana* Khalaim, **sp.n.** easily differs from its North American congeners by yellow and black colour pattern of metasomal tergites 1–4, yellow markings on scutellum and postscutellum, and the shorter ovipositor. Identification key to four species of *Acropimpla* occurring in North America is given.

РЕЗЮМЕ. Новый вид *Acropimpla teoceloana* Khalaim, **sp.n.** описан из штата Веракруз в Центральной Мексике. Это второй вид *Acropimpla* Townes, 1960, обнаруженный в Мексике за последние годы. *Acropimpla teoceloana* Khalaim, **sp.n.** легко отличается от своих Северо-Американских сородичей желтой и черной окраской тергитов 1–4 метасомы, желтыми отметинами на скутеллуме и постскутеллуме и более коротким яйцекладом. Дан определительный ключ четырех видов *Acropimpla*, обитающих в Северной Америке.

Introduction

Acropimpla Townes, 1960 is a pimpline genus (Ichneumonidae: Pimplinae) that comprises 46 species in all regions of the world excepting Antarctica, Central and South America [Yu et al., 2016; Khalaim, Ruíz-Cancino, 2022]. The genus is most species-rich in the Oriental and Eastern Palearctic regions [Liu et al., 2010; Pham et al., 2011], but only three species are

known from the North America [Townes, Townes, 1960; Khalaim, Ruíz-Cancino, 2022]. Species of *Acropimpla* are known as parasitoids of various Lepidoptera, mainly the families Tortricidae and Pyralidae [Yu et al., 2016].

In the North America, two species, *A. alboricta* (Cresson, 1870) and *A. pronexus* Townes, 1960, occur in the USA and Canada [Townes, Townes, 1960], and one species, *A. tequila* Khalaim, 2022, was recently described from tropical Mexico [Khalaim, Ruíz-Cancino, 2022]. The genus is very rarely collected in Mexico as only two specimens of the Mexican species *A. tequila* were found among a large amount of Pimplinae examined in many Mexican and USA insect collections [Khalaim, Ruíz-Cancino, 2022].

The aim of this work is to describe a new species of *Acropimpla* from Mexico and provide a key that allows the recognition of North American species.

Material and methods

The study is based on a large material of Ichneumonidae collected by Maurilio López-Ortega using Malaise traps in the State of Veracruz, Mexico. The holotype of the new species is deposited in the Instituto de Biología, Universidad Nacional Autónoma de México, D.F., Mexico (UNAM).

Morphological terminology generally follows Broad et al. [2018]. Photographs were taken with an Olympus OM-D E-M1 digital camera attached to an Olympus SZX10 stereomicroscope in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; partially focused images were combined using Helicon Focus Pro (ver. 7.6.6) software.

Taxonomy and results

Genus *Acropimpla* Townes, 1960

Type species: *Charitopimpla leucostoma* Cameron, 1907, by original designation.

Acropimpla teoceloana Khalaim, **sp.n.** Figs 1–9.

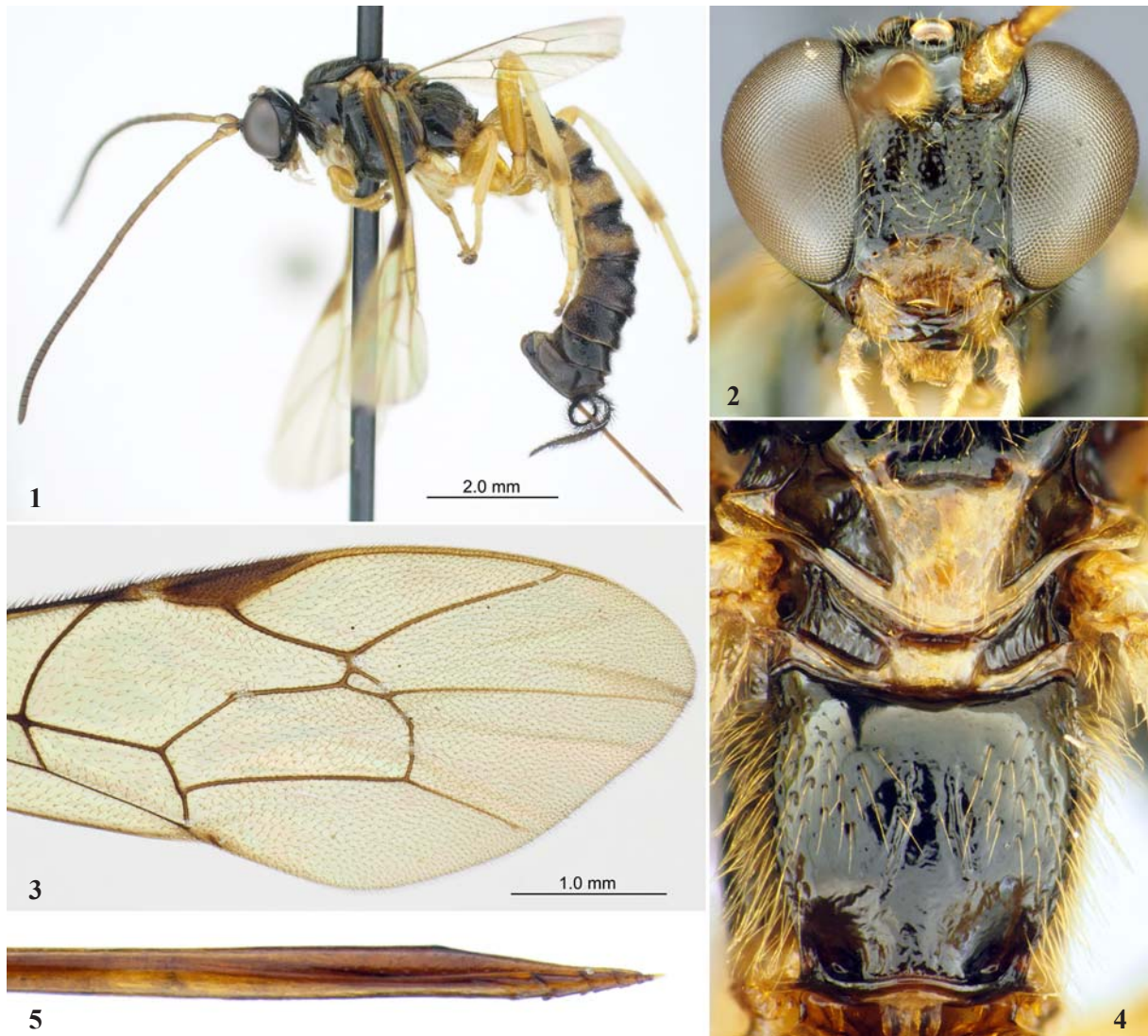
MATERIAL EXAMINED. Holotype: ♀ (UNAM), Mexico, [State of] Veracruz, Municipality Teocelo, Malaise trap, August 2017, coll. M. López-Ortega.

COMPARISON. The new species is immediately distinguished from three other North American species of *Acropimpla* by extensive brownish yellow markings on scutellum, postscutellum (Fig. 4) and metasomal tergites 1–4 (Figs 7, 9), propodeum with lateromedian longitudinal carinae developed mediodorsally (Fig. 4), first tergite with lateromedian longitudinal carinae very strong and reaching posterior margin of first tergite (Fig. 7), and by the shorter ovipositor

(Fig. 1). *Acropimpla teoceloana* **sp.n.** also differs from another Mexican species, *A. tequila*, by complete pleural and submetapleural carinae (Fig. 8), and petiolate areolet in the fore wing (Fig. 3), and from two Nearctic species by entirely reddish brown hind femur (Fig. 8).

DESCRIPTION. **Female.** Body length 8.8 mm. Fore wing length about 6.6 mm.

Antennal flagellum with 23/24 flagellomeres. Mandible broad basally, strongly tapered in basal half, with upper tooth broader and somewhat longer than the lower tooth. Clypeus 1.8 times as broad as long, with lower margin bilobate (Fig. 2). Malar space short, about 0.2 times as long as basal mandibular width. Face transverse, 1.25 times as broad as long, with weak median longitudinal prominence, with fine distinct punctures, smooth between punctures. Vertex and gena polished, with very fine and sparse punctures. Eye with short and sparse setae. Lateral ocellus separated from eye by its own maximum diameter (Fig. 6). Occipital carina mediodorsally dipped and narrowly interrupted (Fig. 6).



Figs 1–5. *Acropimpla teoceloana* **sp.n.**, female, holotype: 1 — habitus; 2 — head; 3 — fore wing; 4 — posterior part of mesosoma; 5 — apex of ovipositor; 1, 5 — lateral view; 2 — front view; 3 — dorsal view.

Рис. 1–5. *Acropimpla teoceloana* **sp.n.**, самка, голотип: 1 — внешний вид; 2 — голова; 3 — переднее крыло; 4 — задняя часть мезосомы; 5 — вершина яйцеклада; 1, 5 — сбоку; 2 — спереди; 3 — сверху.

Epomia distinct, curved; pronotum behind epomia polished (Fig. 1). Mesoscutum punctate on subpolished and weakly shining background; punctures denser on median lobe anteriorly and sparser posteriorly. Notaulus deep, extending in anterior 0.4 of mesoscutum (Fig. 6). Mesopleuron polished, with fine and sparse punctures. Metapleuron polished, impunctate (Fig. 8). Submetapleural carina strong, complete (Fig. 8). Propodeum strongly convex in lateral view (Fig. 8), with lateral longitudinal carinae absent anteriorly and posteriorly, but distinct centrally (Fig. 4); propodeum

punctate laterally (Fig. 8), polished dorsally, impunctate anteriorly and posteriorly, and with moderately dense punctures centrally (Fig. 4). Pleural carina distinct.

Fore wing (Fig. 3) with vein 1cu-a opposite M&RS; areolet strongly oblique, triangular, petiolate above, receiving vein 2m-cu near its outer corner; petiole almost as long as vein 2rs-m. Hind wing with nervellus intercepted slightly above middle, distal section of CU distinct (Fig. 7).

First tergite of metasoma about as long as posteriorly broad, abruptly angulated centrally in lateral view; lateromedio-



Figs 6–9. *Acropimpla teoceloana* sp.n., female, holotype: 6 — head and mesoscutum; 7 — posterior part of mesosoma and base of metasoma; 8 — propodeum and base of metasoma; 9 — posterior part of metasoma; 6–7, 9 — dorsal view; 8 — lateral view.

Рис. 6–9. *Acropimpla teoceloana* sp.n., самка, голотип: 6 — голова и мезоскутум; 7 — задняя часть мезосомы и основание метасомы; 8 — проподоум и основание метасомы; 9 — задняя часть метасомы; 6–7, 9 — сверху; 8 — сбоку.

an longitudinal carinae strong and complete (i.e. almost reaching posterior margin of first tergite), strongly converging towards centre in anterior 0.4 of tergite and weakly converging in posterior 0.6 of tergite (Fig. 7); dorsolateral longitudinal carinae complete, quite strong before and behind spiracle. Second tergite distinctly transverse, 0.6 times as long as maximally broad. Tergites 2–5 densely punctate, with posterior margins smooth, with subbasal and subapical transverse impressions delimiting convex central part on each tergite (second tergite with smooth basomedian convexity across subbasal transverse impression) (Fig. 9); tergite 6 with sparser punctures, with subbasal transverse impression and posterior smooth margin reduced. Sclerotised parts of sternites 2–5 brownish black. Ovipositor straight, slightly compressed laterally, projecting beyond hind margin of subgenital plate by about 1.4 times length of hind tibia; ovipositor sheath 1.6 times as long as hind tibia (Fig. 1); apex of ovipositor with weak dorsal angle, dorsal valve beyond nodus slightly concave, lower valve with about four oblique teeth (Fig. 5).

Head and mesosoma predominantly black (Fig. 1). Antenna pale brown basally to dark brown apically; lower halves of scape and pedicel yellow. Clypeus yellow-brown (Fig. 2). Basal half of mandible yellow-brown, apical half reddish brown, teeth black. Palpi brownish yellow. Pronotum with lower corner, posterior corner and upper margin behind base of notaulus brownish yellow. Tegula, mesepimeron, dorsal parts of scutellum and postscutellum yellow (Figs 1, 4). Posterior part of metapleuron and posterolateral corners of propodeum narrowly brownish yellow (Fig. 8). Wings distinctly infumate with yellowish brown (Fig. 3); pterostigma brown. Legs predominantly whitish yellow to brownish yellow; hind leg with coxa and femur brownish, tibia whitish with distal 0.2 fuscous (Fig. 8); tarsomeres 5 of all legs infusate. First tergite brownish yellow, mediodorsally with dark brown marks (Fig. 7). Tergites 2 and 3 brownish yellow, with dark brown transverse bands in anterior about 0.3 and posterior 0.15 (Fig. 9). Tergite 4 dark brown in anterior half and on posterior margin, remainder brownish yellow (Fig. 9). Tergite 5 and following tergites dark brown to brownish black.

Male. Unknown.

ETYMOLOGY. The new species is named after the type locality, Teocelo [Municipio].

DISTRIBUTION. Mexico (Veracruz).

KEY TO SPECIES OF *ACROPIMPLA* OCCURRING IN NORTH AMERICA

1. Submetapleural carina absent. Mexico
..... *A. tequila* Khalaim, 2022
- Submetapleural carina complete 2
2. Scutellum, postscutellum and metasomal tergites 1–4 extensively marked with brownish yellow (Figs 4, 7, 9). Hind

- femur entirely reddish brown, without fuscous markings (Fig. 8). Propodeum with lateromedian longitudinal carinae developed mediodorsally, absent anteriorly and posteriorly (Fig. 4). Ovipositor sheath 1.1 times as long as hind tibia (Fig. 1). Mexico *A. teoceloana* Khalaim, **sp.n.**
- Scutellum, postscutellum and metasomal tergites 1–4 black. Hind femur reddish brown, but with a distinct blackish mark apically. Propodeum with lateromedian longitudinal carinae developed anteriorly. Ovipositor sheath about twice as long as hind tibia. USA and Canada 3
3. Fore wing with areolet receiving vein 2m-cu at or near its outer corner. Apex of ovipositor with a weak but distinct angle dorsally (as in Fig. 5). Hind femur with blackish mark in apical approximately 0.25 *A. alboricta* (Cresson)
 - Fore wing with areolet receiving vein 2m-cu distinctly before its outer corner. Apex of ovipositor with weak and even curvature dorsally. Hind femur with blackish mark in apical approximately 0.15 *A. pronexus* Townes

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Competing interests. The authors declare no competing interests.

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